

**МГ-311 EQUIPMENT**

FOLDER N2

GENERAL DIAGRAMS

/191106.046 015

**МГ-311 EQUIPMENT**

TABLE OF CABLE CORES  
TO CONNECTION DIAGRAMS

ЛУ1106.046 Д

W 1/1.

SONAR TARGET DATA EQUIPMENT  
MT-311

TABLE OF CABLE CORES TO CONNECTION  
DIAGRAM  
AVI.106.046 A

On 23 sheets

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Core No.	Name of core	Core goes from		Core goes to		Remark
		Strip No.	Term. No.	Strip No.	Term. No.	
1	2	3	4	5	6	7
1	(1) K90 6 x 1.5" [6]	Unit	1	Unit	H <sub>3</sub>	
2	Ground				8	
3	110 V, 50 Hz				2	
4	Phase 3 0VPH				3	
5	Phase 2 0VPH				4	
6	Phase 1 0VPH				5	
7	110 V, 50 Hz				1	
1	(2) K90 6 x 1.5" [4]	Unit	1	Unit	H <sub>3</sub>	
2	Ground				8	
3	Signal YM				2	
4	Ground				3	
5	Signal YK				4	
6	Signal ME				5	
7						
1	(3) K90 6 x 1.5" [6]	Unit	1	Unit	H <sub>3</sub>	
2	Ground				8	
3	Checkback				2	
4	Do				3	
5	Signal Zk				4	
6	Do				5	
7	Checkback				1	

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1	2	3	4	5	6	7
	(4) KDC 6 x 1.5" [4]	Unit	1	Unit	13	
1	Ground					
2	Signal X <sub>1</sub> HK	Chassis				
3	Signal KY			4	2	
4	Ground			4	3	
5				4	4	
6						
7	Signal AK HK			4	1	
	(5) KDC 6 x 1.5" [5]	Unit	1	Unit	13	
1	Ground			12	2	
2	Signal					
3	Do			16	1	
4	Do			16	5	
5	Do			16	2	
6				16	5	
7						
	(6) KDC 5 x 1.5" [4]	Unit	1	Unit	13	
1	Ground			12	2	
2	Signal					
3	Do			16	3	
4	Do			16	4	
5				12	1	
6						
7						



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1	2	3	4	5	6	7
1	7 KHP3 5 x 2.5 [3]	HM	1111	Unit	20A	
2	220 V 50 Hz	01		3	1	
3	Do	02		2	2	
4	Do	03		1	3	
5						
1	8 KHP3 7 x 1 [5]	Unit	2	Unit	22	
2	+ 110 V to interlock	21	1	50	6	
3	- 110 V to interlock	21	2	50	5	
4	+ 110 V from interlock	21	3	50	4	
5	- 110 V from interlock	21	4	50	1	
6-7	Ground	22	5	50		
1	9 KBD 2 x 1.5 [2]	Unit	1A	Unit	83	
2	Pressure check			4	6	
	Do			4	7	

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1	2	3	4	5	6	7
	(10) KHPPT9 30 x I [20]		Unit 4	Unit	4	
1	Signal UV (P4)	10	4	6	1	
2	Signal UV (P3)	16	7	9	2	
3	Signal UV (P2)	16	8	9	3	
4	Target data accepted	16	5	6	5	
5	Signal UV (P1)	16	5	9	4	
6	Take target data	16	4	9	6	
7	26 V, 50 Hz	16	1	9	7	
8	Target lost	28	1	9	8	
9	Scale II signalling	28	6	9	9	
10	Scale III signalling	28	7	9	10	
11	Phase 3 (A)	29	6	8	2	
12	Phase 2 (A)	29	5	8	3	
13	Phase 1 (A)	29	4	8	4	
14	110 V, 50 Hz	16	9	8	5	
15	110 V, 50 Hz	16	10	8	6	
16	Signal RC	28	2	8	9	
17	Signal RC	28	3	8	10	
18	Signal RC	28	7	7	9	
19	Signal RC	28	8	7	10	
20	Signal RC	28	9	7	8	
21	Signal RC	28				
22	Signal RC	28				
23	Signal RC	28				
24	Signal RC	28				
25	Signal RC	28				
26	Signal RC	28				
27-28	Signal RC	28				
29-30	Signal RC	28				

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1	2	3	4	5	6	7
	(11) KHP3 7 x 1.5" [5]	"MT-312H"	Unit 4	Unit		
1	Ping synchronization	18	8		7	
2	Do	18		56		
3	Scale signalling	18	7	56	3	
4	Do	18	4	56	4	
5	Relay control	18	5	56	5	
		18	6	56	6	
	(12) KHP3 14 x 2.5" [2]	Unit	21	Unit	8	
1	220 V, 500 Hz	51	3		1	
2	Do	51	4	1	2	
3	36 V, 500 Hz	50	3	1	9	
4	Do	50	4	1	10	
5	+ 110 V	51	1	2	1	
6	- 110 V	51	2	2	2	
7	220 V, 500 Hz standby	51	6	2	10	
8	110 V, 500 Hz	50	1	3	1	
9	220 V, 500 Hz standby	51	5	2	9	
10	220 V, 500 Hz standby	50	2	3	2	
11	110 V, 50 Hz	50	7	4	1	
12	Do	50	8	4	2	
13-14						
15-16						

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1	2	3	4	5	6	7
	(13) KRP9 10 x 2.5 <sup>□</sup> [8]	Unit		Unit	9 <sub>2</sub>	
1	220 V, 50 Hz	52	4	1	1	
2	Do	52	5	1	2	
3	Do	52	6	1	3	
4	220 V, 50 Hz standby	52	7	1	4	
5	Do	52	8	1	5	
6	Do	52	9	1	6	
7	26 V, 50 Hz	32	10	1	7	
8	Do	32		1	8	
9						
10						
	(14) KRP9 7 x 1.5 <sup>□</sup> [5]	Unit		Unit	8	
1	220 V, 500 Hz	1	1	6	7	
2	220 V, 500 Hz	1	2	6	8	
3	220 V, 500 Hz standby	1	9	6	1	
4	Do	2	10	6	2	
5	220 V, 500 Hz	1	3	8	3	
6-7					6	
	(15) KRP9 7 x 1.5 <sup>□</sup> [10]	Unit		Unit	18	
1	110 V, 500 Hz	2	8	39	1	
2	Do	4	9	39	2	
3	110 V, 50 Hz	4	5	39	3	
4	Do	4	6	39	4	
5	26 V, 50 Hz	4	9	39	5	
6	Do	4	10	39	6	
7						

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1	2	3	4	5	6	7
	(13) KRP3 10 x 2.5 <sup>0</sup> [8]	Unit		Unit	g <sub>2</sub>	
1	220 V, 50 Hz	52	4	4	4	
2	Do	52	5	4	2	
3	Do	52	6	4	3	
4	220 V, 50 Hz standby	52	7	4	1	
5	Do	52	8	2	2	
6	Do	52	9	5	1	
7	26 V, 50 Hz	52	10	1	3	
8	Do	52			5	
9						
10						
	(14) KRP3 7 x 1.5 <sup>0</sup> [5]	Unit	R <sub>1</sub>	Unit	8	
1	220 V, 500 Hz	1	1	6	7	
2	220 V, 500 Hz	1	2	6	8	
3	220 V, 500 Hz standby	1	9	6	1	
4	Do	2	10	6	2	
5	220 V, 500 Hz	1	3	8	6	
6-7						
	(15) KRP3 7 x 1.5 <sup>0</sup> [6]	Unit	R <sub>1</sub>	Unit	8	
1	110 V, 500 Hz	3	8	39	1	
2	Do	3	9	39	2	
3	110 V, 50 Hz	4	5	39	3	
4	Do	4	6	39	4	
5	26 V, 50 Hz	4	9	39	5	
6	Do	4	10	39	6	
7						

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1	2	3	4	5	6	7
	(16) KHP3 7 1.5 [10]	Unit	R <sub>I</sub>	Unit	7	
1	36 V, 500 Hz	1	5	50	5	
2	Do	1	5	50	5	
3	+ 110 V	2	5	49	1	
4	- 110 V	2	5	49	2	
5	110 V, 500 Hz	3	5	49	9	
6	Do		6	49	10	
7						
	(17) KHP3 16 x 1.5 [12]	Unit	R <sub>I</sub>	Unit	R <sub>2</sub>	
1	36 V, 500 Hz	1	3	3	3	
2	Do	1	10	3	8	
3	+ 110 V	2	1	4	9	
4	- 110 V	2	1	4	10	
5	110 V, 500 Hz	3	2	3	3	
6	Do	3	1	3	4	
7	110 V, 50 Hz	4	1	3	1	
8	Do	4	2	3	2	
9	26 V, 50 Hz	4	2	3	7	
10	Do	4	3	3	8	
11	220 V, 500 Hz standby	2	10	3	9	
12	Do		7	3	10	
13			8			
14						
15						
16						

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1	2	3	4	5	6	7
	18 KHP9 14 x 1.5 <sup>2</sup> 11	Unit	81	Unit	%A	
1	36 V, 500 Hz	1	7	136	3	
2	Do	1	8	136	4	
3	+ 110 V	2	3	136	7	
4	- 110 V	3	4	136	8	
5	110 V, 500 Hz	3	3	136	1	
6	110 V, 500 Hz	3	4	136	2	
7	Do	3	10	136	10	
8	220 V, 500 Hz	1	4	136	5	
9	110 V, 50 Hz	4	7	136	6	
10	Do	4	3	136	9	
11	220 V, 500 Hz	1		136	7	
12						
13-14						
	19 KHP9 7 x 1.5 <sup>2</sup> 4	Unit	8	Unit	20	For tilt and direction gear, unit R <sub>4</sub>
1	SWD control	3	1	20	1	1
2	Do	5	2	20	2	2
3	Do	5	5	20	3	3
4	Do	5	6	20	4	4
5						
6						
7						

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1	2	3	4	5	6	7
	20 KHP9T9 12 x 1 <sup>0</sup> [8]	Unit		Unit	4A	
1	Automatic gain control	4	0			
2	Signal CM	4	2	6	5	
3	Ground	4	5	6	6	
4	Signal CM	4	6	6	7	
5	Control of ADM-123-B	4	7	6	8	
6	Do	4	3	6	9	
7	Signal NM	4	4	6	10	
8	Ground	4	5	6	3	
9			6	6	4	
10						
11						
12						
	21 KHP9T9 12 x 1 <sup>0</sup> [13]	Unit		Unit		
1	Tracking signal	1	8		4	
2	Integrating network	2	9	18	1	
3	Do	2	5	18	2	
4			6	18	3	
5	Ground	1				
6	Control of ADM-123-B	1	6	18	6	
7	Do	1	5	18	7	
8	ADM control	1	6	18	8	
9	Do	2	1	18	9	
10	Signal KV	1	2	18	10	
11	Ground	1	3	19	1	
12			4	19	2	
13						
14						
15	Signal NC	2	7	19	7	
16	Ground	2	8	19		
17	dynamic error compensa-	2	9	19	6	
18	tion				4	
19						

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1	2	3	4	5	6	7
	22 KHP9TS 5 x I [4]	Unit	8	Unit	7A	
1	Signal AT	10	3	135	1	
2	Do	10	4	135	2	
3	ADP control	10	4	135	3	
4	Do	10	2	135	4	
5						
	23 KHP9TS 10 x I [6]	Unit	8	Unit	7	
1	Signal AT	11	3	50	1	
2	Do	11	4	50	2	
3	Signal JBT	11	5	50	3	
4	220 V. 500 Hz	3	6	50	4	
5	Signal JBT	11	6	50	5	
6	220 V. 500 Hz	3	6	50	6	
7	ADP control	11	6	50	7	
8	Do	11	6	50	8	
9						
10						
	24 KHP9TS 10 x I [6]	Unit	8	Unit	25	
1	Signal JBT	10	5	1	1	
2	Do	10	6	1	2	
3	A.G.C.	9	4	1	3	
4	Control of ADP 123-6	9	3	1	4	
5	Do	9	2	1	5	
6	Ground	9	1	1		
7						
8						
9						
10						

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1	2	3	4	5	6	7
	25 KHP9TS 5 x 1 <sup>1</sup> 2	Unit				
1	Range	57	7	Unit	25	
2	Do	57	3	3	9	
3			4	3	10	
4						
5						
	26 KHP9TS 10 x 1 <sup>1</sup> 6	Unit				
1	Data transmission	10	4A	Unit	25	
2	MBT excitation	10	1	4	1	
3	Ground	10	2	4	2	
4			3	4	3	
5	Data transmission	10				
6	10 V 500 HZ	10	4	4	4	
7	Data transmission	10	5	1	5	
8						
9						
10						
	27 KHP9TS 10 x 1 <sup>1</sup> 5	Unit				
1	Data transmission	41	18	Unit	25	
2	Do	41	3	3	1	
3	Do	41	4	3	2	
4			1	3	3	
5	Data transmission	41				
6			2	3	4	
7	Data transmission	41	5	3	5	
8						
9						
10						

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1	2	3	4	5	6	7
1	28 KHP3T3 12 x 1 9	Unit	24	Unit	25	
2	Control network	134	1	2	7	
3	Signal to stylus	134	2	2	6	
4	Control network	134	3	2	2	
5	Do	134	4	2	6	
6	110 V, 500 Hz	134	5	2	6	
7	+ 110 V	134	6	2	5	
8	- 100 V	134	7	2	1	
9	110 V, 500 Hz	134	8	2	4	
10	Ground	134	9	2	9	
11 12						
1	29 KHP3 14 x 1.5 13	Unit	4	Unit	11	
2	25 V, 50 Hz	10	3	6	3	
3	KV phase 1 10	10	4	7	3	
4	KV phase 2 10	10	5	7	2	
5	KV phase 3 10	10	6	7	2	
6	110 V, 50 Hz	10	7	6	4	
7	Do	10	8	6	5	
8	Target spotted	10	9	6	1	
9	25 V, 50 Hz	10	10	6	2	
10	Phase 1, bearing	10	2	6	9	
11	Phase 2, bearing	10	7	7	7	
12	Phase 3, bearing	13	1	7	6	
13	110 V, 50 Hz	13	2	7	4	
14	Do	13	7	7	5	

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1	2	3	4	5	6	7
	30	KHPS13 14 x 1 <sup>1</sup>	Unit			
1	KV phase 1 PO	13		Unit	2	
2	KV phase 2 PO	13		22	1	
3	KV phase 3 PO	13		22	2	
4		13		22	3	
5	Ship's own speed V <sub>1</sub>	13				
6	Ship's own speed V <sub>2</sub>	13	8	22	6	
7	Length of pulse I	13	9	22	7	
8	Length of pulse III	13	10	23	4	
9		13	1	23	6	
10	Synchronization	13	3			
11	Ping control	13	10	24	2	
12	+ 24 V	13	3	22	5	
13	Standard frequency	13	10	22	4	
14				23	5	
	31	KHPS13 2 x 1 <sup>1</sup>	Unit			
1	Signal	13	4	Unit	19A	
2		13	4	4	1	
	32	KHPS13 12 x 1 <sup>1</sup>	Unit			
1	Signal at BK	13	4	Unit	4A	
2	Do	13	3	3	1	
3	Signal	13	4	3	2	
4	Ground	13	1	3	4	
5	Data transmission	13	3	3	3	
6	Synchronization	13	3	3	10	
7	Data transmission	13	3	3	6	
8	Synchronization	13	4	3	9	
9				3	8	

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1	2	3	4	5	6	7
10	Synchronization	11	6	8	6	
11	0	4	2	4	9	
12	Signal 2x	3	9	5	8	
13	0	12	2	5	2	
14	Signal 2x	2	10	5	2	
15	0	12	4	4	6	
16	Standard frequency of local oscillator	4	1	4	8	
16	+ 24 V	12	5	4	2	
19	Ping signal pulse	4	3	4	10	
(3) EMP979 19 x 1		Unit	4	Unit	4A	
1	Triggering pulse	11	3	3	5	
2	Signal	5	3	3	1	
3	Synchronization	11	10	13	3	
4	+ 110 V	5	10	13	3	
5	Chassis	11	10	13	3	
6	Take reading	6	11	13	3	
7	+ 250 V	11	10	13	3	
8	+ 110 V	6	10	13	3	
9	Target lost	6	10	13	3	
10	Synchronization	6	10	13	3	
11	+ 250 V	3	10	13	3	
12	+ 250 V	12	10	13	3	
13		12	10	13	3	
14	- 105 V	12	2	4	4	
15	+ 200 V	11	7	4	1	
16						
17						
18						
19						

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1	2	3	4	5	6	7
	(34) KHD3 19 x 1.5 (16)	Unit		Unit		
1	220 V, 50 Hz standby	1	1	2	1	
2	Do	2	2	3	4	
3	Do	1	3	1	7	
4	Do	1	4	1	8	
5	110 V, 50 Hz	1	5	3	3	
6	Do	1	6	3	4	
7	36 V, 500 Hz	1	7	3	7	
8	Do	1	8	3	8	
9	+ 110 V	2	9	4	7	
10	- 110 V	2	10	4	8	
11	110 V, 50 Hz	2	1	4	7	
12	Do	2	2	4	8	
13	25 V, 50 Hz	2	3	6	1	
14	26 V, 50 Hz	2	4	5	2	
15	220 V, 500 Hz standby	2	5	5	1	
16	Do	2	6	5	2	
17		2	7	3	9	
18			8		10	
19			9			
	(35) KHD3T3 19 x 1 (13)	Unit		Unit		
1	110 V, 50 Hz	14	4	1	83	
2			4		2	
3	110 V, 50 Hz	14	5	1	1	
4	Signal YK	14	7	2	4	
5	Signal YK	14	8	2	5	
6	Pressure check	14	9	4	6	
7	Pressure check	14	10	4	7	
8						
9						
10						
11						

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	2	3	4	5	6
12	RYTH phase 1	10			
13	Signal X <sub>h</sub> PK	15	3	1	
14	RYTH phase 2	15	1	4	5
15	Signal X <sub>h</sub> PK	15	4	1	1
16	RYTH phase 3	15	2	4	4
17	Signal KV	15	5	1	2
18	Ground	15	8	1	3
19		15	7	4	3
	(36) KHP9 5 x I <sup>0</sup> [4]	Unit			4
1	Signal	20	4	Unit	13
2	Signal	20	4	17	7
3	Do	20	3	17	8
4	Do	20	2	17	5
5			1	17	6
	(37) KHP3 5 x I <sup>0</sup> [4]	Unit			
1	220 V, 50 Hz	15	4	Unit	DM IIII
2	Do	15	8	13	
3	Do	15	9	3	
4	Do	15	10	1	
5		19	5	C2	

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1	2	3	4	5	6	7
	(30) KHPOT9 30 x 1 <sup>7</sup> (10)	Unit	4	Unit	7	
4						
5	+ 220 V	17	6	48	5	
6	0	16	4	46	5	
7	Signal	18	3	46	4	
8	+ 110 V	17	4	46	1	
9	Signal	16	5	46	2	
10	Triggering pulse	17	6	46	3	
11	0	16	7	46	4	
12	+ 110 V 4	17	8	46	5	
13	+ 110 V 8	17	9	49	6	
14	+ 110 V 2	17	1	49	7	
15	+ 110 V	16	2	49	8	
16	110 V. 50 Hz. excitation	17	3	53	9	
17	Do	17	4	57	10	
18	26 V. 50 Hz	20	5	57	1	
19	Signalling of scale AII	20	6	45	2	
20	Signalling of scale AIII	20	7	45	3	
21	Signal KY (P1)	6	8	45	4	
22	Signal KY (P4)	5	9	57	5	
23	Signal KY (P2)	5	1	57	6	
24	Signal KY (P3)	5	2	57	7	
25			3	57	8	
26			4	57	9	

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1	2	3	4	5	6	7	8	9	10
	(4) MHPD 14 x 1	Unit	14	Unit					
1	Range	1					7		
2	Triggering pulse	1	4	15			4		
3	Range	1		10			1		
4	Synchronization	1	1	10			10		
5	Signalling	1	1	10			6		
6	Do	1	1	10			3		
7	Do	1	1	10			4		
8	20 V, 50 Hz	1	1	10			5		
9	Coupling control	1	1	10			8		
10	Relay control	1	10	10			7		
	(4) KHPD 14 x 1	Unit	14	Unit			10		
1	Local oscillator standard frequency	1	1	10					
2	0	1	1	10			5		
3	Ring signal pulse	1	1	10			6		
6	Synchronization	1	1	10					
7	Mode operation	1	1	10			3		
9	Standard frequency	1	1	10			7		
10	+ 24 V	1	1	10			5		

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1	2	3	4	5	6	7	8
1	4A	Unit	82				
2	220 V. 50 Hz standby	1	6				
3	Do	1	2				
4	220 V. 50 Hz	3	3				
5	Do	4	1				
6	110 V. 50 Hz	5	10				
7	Do	6	5				
8	110 V. 50 Hz	7	6				
9	Do	8	3				
10	+ 110 V	9	6				
11	- 110 V	10	4				
12	26 V. 50 Hz	1	10				
13	Do	2	5				
14		3	4				
1	(42) KHP9TS 14 x 1 1/2	Unit	83				
2	Signal Gx	4A	Unit				
3	Do	1	5				
4	Signal YM	2	5				
5	Checkback	3	12				
6	Ground	4	5				
7	Checkback	5	3				
8	Checkback	6	2				
9	Checkback	7	3				
10	Ground	8	3				
11		9	3				
12		10	3				
13							
14							

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1	2	3	4	5	6	7	8
	(43) KHP3 5 x I (4)	Unit	4A	Unit	13		
1	Signal	1	7	12	1		
2	Do	2	8	13	2		
3	Do	3	9	14	3		
4	Do	4	10	15	4		
	(44) KHP319 12 x I (9)	Unit	4A	Unit	7A		
1	110 V 50 Hz	11	3	133	1		
2	Do	11	4	134	2		
3	Signalling	11	5	135	3		
4	Data transmission	11	6	136	4		
5	Do	11	7	137	5		
6	Do	11	8	138	6		
7	Control network	11	9	139	7		
8	Do	11	10	140	8		
9	Signalling	11	11	141	9		
10-12							
	(45) KHP373 44 x I (25)	Unit	2A	Unit	18		
1	Data transmission	131	1	37	2		
2	Do	131	2	38	3		
3	Do	131	3	39	4		
4	Do	131	4	40	5		
5	Do	131	5	41	6		
6	Do	131	6	42	7		
7	Do	131	7	43	8		
8	Do	131	8	44	9		
9	Do	131	9	45	10		
10	Do	131	10	46	11		
11	Do	131	11	47	12		

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Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
12		13		14		15	
16	Data transmission	17		18		19	
20	Do	21		22		23	
24	Do	25		26		27	
28	Do	29		30		31	
32	Do	33		34		35	
36	Do	37		38		39	
40	Do	41		42		43	
44	Do	45		46		47	
48	Do	49		50		51	
52	Do	53		54		55	
56	Do	57		58		59	
60	Do	61		62		63	
64	Do	65		66		67	
68	Do	69		70		71	
72	Do	73		74		75	
76	Do	77		78		79	
80	Do	81		82		83	
84	Do	85		86		87	
88	Do	89		90		91	
92	Do	93		94		95	
96	Do	97		98		99	
100	Do	101		102		103	
104	Do	105		106		107	
108	Do	109		110		111	
112	Do	113		114		115	
116	Do	117		118		119	
120	Do	121		122		123	
124	Do	125		126		127	
128	Do	129		130		131	
132	Do	133		134		135	
136	Do	137		138		139	
140	Do	141		142		143	
144	Do	145		146		147	
148	Do	149		150		151	
152	Do	153		154		155	
156	Do	157		158		159	
160	Do	161		162		163	
164	Do	165		166		167	
168	Do	169		170		171	
172	Do	173		174		175	
176	Do	177		178		179	
180	Do	181		182		183	
184	Do	185		186		187	
188	Do	189		190		191	
192	Do	193		194		195	
196	Do	197		198		199	
200	Do	201		202		203	
204	Do	205		206		207	
208	Do	209		210		211	
212	Do	213		214		215	
216	Do	217		218		219	
220	Do	221		222		223	
224	Do	225		226		227	
228	Do	229		230		231	
232	Do	233		234		235	
236	Do	237		238		239	
240	Do	241		242		243	
244	Do	245		246		247	
248	Do	249		250		251	
252	Do	253		254		255	
256	Do	257		258		259	
260	Do	261		262		263	
264	Do	265		266		267	
268	Do	269		270		271	
272	Do	273		274		275	
276	Do	277		278		279	
280	Do	281		282		283	
284	Do	285		286		287	
288	Do	289		290		291	
292	Do	293		294		295	
296	Do	297		298		299	
300	Do	301		302		303	
304	Do	305		306		307	
308	Do	309		310		311	
312	Do	313		314		315	
316	Do	317		318		319	
320	Do	321		322		323	
324	Do	325		326		327	
328	Do	329		330		331	
332	Do	333		334		335	
336	Do	337		338		339	
340	Do	341		342		343	
344	Do	345		346		347	
348	Do	349		350		351	
352	Do	353		354		355	
356	Do	357		358		359	
360	Do	361		362		363	
364	Do	365		366		367	
368	Do	369		370		371	
372	Do	373		374		375	
376	Do	377		378		379	
380	Do	381		382		383	
384	Do	385		386		387	
388	Do	389		390		391	
392	Do	393		394		395	
396	Do	397		398		399	
400	Do	401		402		403	
404	Do	405		406		407	
408	Do	409		410		411	
412	Do	413		414		415	
416	Do	417		418		419	
420	Do	421		422		423	
424	Do	425		426		427	
428	Do	429		430		431	
432	Do	433		434		435	
436	Do	437		438		439	
440	Do	441		442		443	
444	Do	445		446		447	
448	Do	449		450		451	
452	Do	453		454		455	
456	Do	457		458		459	
460	Do	461		462		463	
464	Do	465		466		467	
468	Do	469		470		471	
472	Do	473		474		475	
476	Do	477		478		479	
480	Do	481		482		483	
484	Do	485		486		487	
488	Do	489		490		491	
492	Do	493		494		495	
496	Do	497		498		499	
500	Do	501		502		503	
504	Do	505		506		507	
508	Do	509		510		511	
512	Do	513		514		515	
516	Do	517		518		519	
520	Do	521		522		523	
524	Do	525		526		527	
528	Do	529		530		531	
532	Do	533		534		535	
536	Do	537		538		539	
540	Do	541		542		543	
544	Do	545		546		547	
548	Do	549		550		551	
552	Do	553		554		555	
556	Do	557		558		559	
560	Do	561		562		563	
564	Do	565		566		567	
568	Do	569		570		571	
572	Do	573		574		575	
576	Do	577		578		579	
580	Do	581		582		583	
584	Do	585		586		587	
588	Do	589		590		591	
592	Do	593		594		595	
596	Do	597		598		599	
600	Do	601		602		603	
604	Do	605		606		607	
608	Do	609		610		611	
612	Do	613		614		615	
616	Do	617		618		619	
620	Do	621		622		623	
624	Do	625		626		627	
628	Do	629		630		631	
632	Do	633		634		635	
636	Do	637		638		639	
640	Do	641		642		643	
644	Do	645		646		647	
648	Do	649		650		651	
652	Do	653		654		655	
656	Do	657		658		659	
660	Do	661		662		663	
664	Do	665		666		667	
668	Do	669		670		671	
672	Do	673		674		675	
676	Do	677		678		679	
680	Do	681		682		683	
684	Do	685		686		687	
688	Do	689		690		691	
692	Do	693		694		695	
696	Do	697		698		699	
700	Do	701		702		703	
704	Do	705		706		707	
708	Do	709		710		711	
712	Do	713		714		715	
716	Do	717		718		719	
720	Do	721		722		723	
724	Do	725		726		727	
728	Do	729		730		731	
732	Do	733		734		735	
736	Do	737		738		739	
740	Do	741		742		743	
744	Do	745		746		747	
748	Do	749		750		751	
752	Do	753		754		755	
756	Do	757		758		759	
760	Do	761		762		763	
764	Do	765		766		767	
768	Do	769		770		771	
772	Do	773		774		775	
776	Do	777		778		779	
780	Do	781		782		783	
784	Do	785		786		787	
788	Do	789		790		791	
792	Do	793		794		795	
796	Do	797		798		799	
800	Do	801		802		803	
804	Do	805		806		807	
808	Do	809		810		811	
812	Do	813		814		815	
816	Do	817		818		819	
820	Do	821		822		823	
824	Do	825		826		827	
828	Do	829		830		831	
832	Do	833		834		835	
836	Do	837		838		839	
840	Do	841		842		843	
844	Do	845		846		847	
848	Do	849		850		851	
852	Do	853		854		855	
856	Do	857		858		859	
860	Do	861		862		863	
864	Do	865		866		867	
868	Do	869		870		871	
872	Do	873		874		875	
876	Do	877		878		879	
880	Do	881		882		883	
884	Do	885		886		887	

Pulse Width		Pulse Rate		Pulse Amplitude	
1	2	3	4	5	6
1	Trig. pulse	100	100	100	100
2	End of plug	100	100	100	100
3	Control	100	100	100	100
4	Control	100	100	100	100
5	Control	100	100	100	100
6	Control	100	100	100	100
Pulse Width		Pulse Rate		Pulse Amplitude	
1	High frequency pulse	100	100	100	100
2	High frequency pulse	100	100	100	100
3	High frequency pulse	100	100	100	100
4	High frequency pulse	100	100	100	100
5	High frequency pulse	100	100	100	100
6	High frequency pulse	100	100	100	100
Pulse Width		Pulse Rate		Pulse Amplitude	
1	100 V	100	100	100	100
2	100	100	100	100	100
3	100	100	100	100	100
4	100	100	100	100	100
5	100	100	100	100	100

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1	(50) KHPD 5 x 1" 14"				
2	+ 110 V	4		19	
3	- 110 V	5		19	
4	110 V, 50 Hz	6		19	
5	Do	7		19	
	(51) KHPD 12 x 2.5" 110"	Unit			
1	220 V, 50 Hz	1		Unit	
2	Do	2		20	
3	Do	3		20	
4	220 V, 50 Hz standby	4		20	
5	Do	5		20	
6	Do	6		20	
7	+ 110 V	7		20	
8	- 110 V	8		21	
9	110 V, 50 Hz	9		21	
10	Do	10		21	
11		11		21	
12		12		21	
	(52) PK-5	Unit		Unit	
	+ 5000	27		29	
	(53) PK-5	Unit		Unit	
	+ 2000	28		28	
	(54) PK-5	Unit		Unit	
	+ 200	29		27	

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1	2	3	4	5	6
(55) KHP3 3 x 1.5 [2]	Unit	21	Unit	15	
1 220 V, 50 Hz	48	1	14	2	
2 Do	49	2	14	4	
(56) KHP3 3 x 4 [5]	Unit	21	Transf.	TCB 7.5/0.5	
1 220 V, 50 Hz	48	1			
2 Do	48	2			
3 Do	49	3			
(57) KHP3 3 x 1.5 [2]	Unit	21	Unit	15	
1 + 110 V	49	1	14	1	
2 - 110 V	49	2	14	2	
(58) KHP3 3 x 4 [5]	Unit	21	Network	220 V, 50 Hz	
1 220 V, 50 Hz	48	1			
2 Do	46	2			
3 Do	48	3			
(59) KHP3 3 x 1.5 [2]	Unit	21	Network d.c.		
1 + 110 V	49	1			
2 - 110 V	49	2			

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1	2	3	4	5	6	7
1	(60) KHP9 2 x 1.5' 12	Unit	21	Network	220 V, 500 Hz	
2	220 V, 500 Hz	49	3			
3	Do	49	4			
4	KHP9T9 16 x 1' 12	Unit	4	Gyro		
5	Signal X <sub>0</sub> PK (P <sub>0</sub> )	9	1			
6	Signal X <sub>0</sub> PK (P <sub>0</sub> )	7	2			
7	Data transmission	6	3			
8	Signal Z <sub>k</sub>	6	4			
9	Data transmission	6	5			
10	Signal Z <sub>k</sub>	6	6			
11	Signal X <sub>k</sub> PK (C <sub>1</sub> )	6	7			
12	Signal X <sub>k</sub> PK (C <sub>2</sub> )	6	8			
13	Signal Y <sub>0</sub> PK (P <sub>0</sub> )	7	9			
14	Signal Y <sub>0</sub> PK (P <sub>0</sub> )	7	10			
15	Signal Y <sub>k</sub>	0				
16	Signal Y <sub>k</sub>	0				
1	(61) KHP9 19 x 1.5' 12	Unit	4A	Fire control system		
2	Take reading	14	2			
3	Target lost	14	3			
4	+ 110 V	14	4			
5	Depth	15	5			
6	Do	15	6			
7	Do	15	7			
	110 V, 50 Hz	15	8			
		15	9			
		15	10			

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1	2	3	4	5	6	7
8	110 V, 50 Hz	15	2			
9	Signal Depth	16	4			
10	+ 110 V signalling	16	4			
11	Signalling operation start	19	4			
12	- 110 V signalling	21	4			
13			8			
14						
15						
16						
17						
18						
19						
	KHP9 7 x I 5	Unit 11		Gyrocompass		
1	110 V, 50 Hz 01	7	4			
2	110 V, 50 Hz 02	7	5			
3	Phase 2, bearing	7	6			
4	Phase 2, bearing	7	7			
5	Phase 1, bearing	7	8			
6						
7						

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1	2	3	4	5	6	7
	62 KHP973 24 x 1 16	Unit	7			
1	Scale voltage ABY-A	48	9			
2	Scale voltage FbT-A	48				
3			10			
4	110 V, 500 Hz	48				
5	+ 110 V	46	8			
6	110 V, 500 Hz	48	2			
7	+ 110 V	57	7			
8	Signal KV (P1)	57	10			
9			5			
10	Signal KV (P2)	57	6			
11						
12	Signal KV (P2)	57	7			
13	Signal: Take range	53	9			
14	Signal KV (P4)	57	8			
15	Range 3	46	10			
16	Range 4	46	9			
17	Range 2	46	8			
18	110 V, 500 Hz	57	9			
19						
20	110 V, 500 Hz	57	10			
21						
22						
23						
24						